

ABSTRACT OF THE DISCLOSURE

It is an object of the present invention to provides an aqueous CMP dispersion with an adequately high initial removal rate, and which, even after repeated polishing, exhibits at least one, and preferably two or more, of the following functions and effects: (1) reduction of performance of polishing pads is suppressed and an adequate removal rate is maintained, (2) generation of pits on polishing surfaces is inhibited, and (3) uneven sections on polishing surfaces are flattened, and satisfactory finished surfaces can be formed with high precision. The aqueous CMP dispersion comprises an abrasive, an organic compound and water. The organic compound with an effect of suppressing reduction of performance of polishing pads may be biphenol, bipyridyl, vinylpyridine, adenine or the like. The organic compound with an effect of inhibiting generation of pits on polishing surfaces may be biphenol, bipyridyl, vinylpyridine, hypoxanthine or the like. The organic compound with an effect of flattening uneven sections on polishing surfaces may be biphenol, bipyridyl, vinylpyridine, salicylaldehyde or the like. The aqueous CMP dispersion of the present invention that contains specific organic compounds has at least one and especially two functions and effects from among that of suppressing reduction of performance of polishing pads, that of suppressing void wearing of polishing surfaces and that of flattening polishing surfaces, as well as a combination of these three functions and effects, even with repeated polishing. The aqueous CMP dispersion is

particularly useful for polishing of copper films, and can form satisfactory finished surfaces with high precision.

$\begin{pmatrix} \alpha_0 \\ \vdots \\ \alpha_{n-1} \end{pmatrix}$